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GAMEPLAY SOFTWARE ENGINEER

EXPERIENCE

Electronic Arts
Gameplay Software Engineer *May 2021 - Present*

- Unreleased, unannounced 4x multiplayer title with a Unity C# client and a Typescript server, deployed on GCP
- Collaborated with designers and leads to implement full stack inventory features: out-of-resource flows, random reward chests, and selectable reward chests. Handled client prediction, added test coverage, and updated game design data
- Designed and implemented inventory bot behaviors using behavior trees to assist in load tests for scalability
- Enhanced troop, hero, and buff systems to add troop march and troop capacity limits, accounting for hero passives
- Fixed high priority bugs (client replication, hard locks); sought out game feature requirements and proposed solutions

Sony Interactive Entertainment
Software Engineer II *Mar 2018 - April 2021*

- Worked on PS5 Official News, a Spring/React application hosted on AWS for Sony and partners to manage posts and campaigns
  - Ramped up on React to write components for searching/listing data, validated complex rules, utilized Redux and Jest
  - Used OAuth and gRPC to wrap internal APIs for a public site, set up Okta users/roles in SQL, used Elasticsearch for search
- Designed and implemented a voucher code generation system with new business rules, better performance, and encryption
  - Devised a migration plan for 4.2 billion legacy voucher codes with minimal application downtime
  - Optimized voucher code import job's runtime from several months to a little over a week
- Wrote a service to securely deliver voucher codes to partners; scaled up from 900K codes to support new limit of 10M
- Worked on a Java/Spring application for partners to order vouchers, receive email status updates through AWS SES, and download prepared files through AWS S3 presigned URLs or SFTP. Refactored secret management library across applications

GumGum
Software Engineer *Sept 2016 - Feb 2018*

- Visual Intelligence (VI) – Service using computer vision to detect brand value in social media images
  - *Big data pipeline* - ingests ~15 million social media posts daily through AWS Kinesis, parses and processes the data in Apache Storm, and stores the data in Amazon S3 and Elasticsearch
  - *Java/Spring web application* – hosted on AWS EC2, allows users to analyze brand engagement on social media
- Developed a data pipeline to ingest ad publisher images into VI, upgraded Java consumer of GNIP (Twitter data) stream to 2.0
- Rewrote image/analytics endpoints of the VI API to use a common query filter so user searches carried across pages
- Scripted in Python to generate reports (top keywords, Sports Sponsorship analysis), transform data in the Elasticsearch datastore, and interact with third-party services' APIs

UCI Office of Information Technology
Programmer Analyst II, Student Financials *Jul 2015 – Sept 2016*

- Migrated customers and financial data to the Ellucian student system. Used SQL/Oracle to filter/cleanse data.
- Added support for variable rate institutional loans in two Java web apps (Tomcat Servlet/Jasper Report, Spring/Hibernate)
- Scripted Bash process to securely transfer and archive reports from Bank of America to school departments

Student Programmer *Dec 2012 – Jun 2015*

- Developed a Java Spring/Hibernate web application to allow staff to manage lab fees for academic quarters
- Wrote SQL and Bash scripts to migrate and convert 100+ tables from the old financial system

PROJECTS

Ludum Dare 29, 30, 33 *(48-hour themed competition where games/assets are developed in solo)*

- Boat Simulator, Fairy Catcher (Apr. 2014, Java, LibGDX); Iron Cog Goblin (Aug. 2015, C#, Unity 2D)

Advanced Database System Course *Apr 2015 – Jun 2015*

- Designed and implemented major components of a relational database system in C++
- Read/write records to disk, CRUD operations on records, indexing (top-down B+ tree), nulls and variable length strings

Advanced Computer Graphics Course - Ray Tracer *Apr 2013 – Jun 2013*

- Developed a ray tracer in C++ from skeleton code; implemented intersection, ray casting, lighting, shadows, reflection, anti-aliasing, photon mapping and blur to generate realistic images

EDUCATION

University of California, Irvine *(Cum Laude)* *June 2015*

- B.S., Computer Science; B.S., Software Engineering GPA: 3.8

SKILLS

- **Languages:** Java, C#/LINQ, Javascript/Typescript, Python, C++; SQL; Bash; HTML/CSS
- **Tools:** Visual Studio, IntelliJ, Unity; Git, SVN; UNIX; Spring/Hibernate, React; Apache Storm; Selenium; XPath; Elasticsearch